

COMMUNICABLE DISEASE CENTER

# POLIOMYELITIS

## SURVEILLANCE

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# PREFACE

Summarized in this report is information received from State Health Departments, university investigators, virology laboratories and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the Surveillance Report are most welcome. Please address to:  
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SUMMARY

With 29 cases of poliomyelitis, 25 paralytic, reported during the past two weeks, the paralytic cases for this year continue to accumulate and remain above the total reported for 1961, the record low year.

The total National incidence of poliomyelitis is largely being produced by the State of Texas which has noted several concentrations of cases. A report on this state is given in Section 2. Massachusetts, while having had but two cases in 1962, has undertaken a most active approach in the use of oral poliovaccine to avert an epidemic. This is also described in Section 2.

Of the 135 cases of paralytic poliomyelitis in the United States having onset in 1962, poliovirus isolations have been made from 42. These have largely been Type I.

A description of the use of oral poliovaccine in Chile in 1961-1962 is presented as a foreign report. The effect of the use of the vaccine under epidemic conditions in Santiago is shown.

1. CURRENT MORBIDITY TRENDS

The 26th week ending June 30, 1962, brought reports of a total of 19 cases, 16 paralytic, while the preceding week accounted for 10 cases, 9 paralytic. Thus during the two weeks ending June 30th, 25 paralytic cases were reported. The same two weeks in 1961 showed a total of 16 paralytic cases.

During the last two weeks in June, Texas has accounted for over half of the national experience with this disease. A detailed description of the current situation in that State will be given in Section 2. California reported 5 cases during this two week period, two cases having onsets of illness over 3 months previously; the remaining three were not geographically related. Massachusetts reported two cases for the week ending June 23. These cases are described in Section 2 because of the epidemiologic approach used in this situation. No further cases have been reported from this State. The remaining reports were of single cases and stemmed from 6 other States.

The six week cumulative totals for the past five years are shown below.

	<u>Six-Week Totals (21st thru 26th Week) for Past Five Years</u>				
	<u>1962</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>	<u>1958</u>
Paralytic	66	48	131	357	149
Total	78	79	170	543	299

2. STATE REPORTS -

YRAMMUS

A. Texas

Dr. Van C. Tipton, Chief, Communicable Disease Division, Texas State Department of Health, reports an additional 15 cases, 11 paralytic, for the two-week period ending June 30. The portion of the State exhibiting the greatest poliomyelitis activity has shifted from the San Antonio-Laredo area which received Type I oral vaccine from the CDC epidemic reserve to Houston and Dallas. These two cities, the largest in Texas, have accounted for 8 of the 15 total cases and 6 of the 11 paralytic cases in the last two weeks.

A total of six paralytic cases have been recognized in Harris County (Houston) thus far in 1962. In addition, 3 non-paralytic cases have occurred in this county and in adjacent Brazoria County. Type I poliomyelitis has been isolated from 2 Harris County cases; the non-paralytic cases have not yielded a virus as yet. The experience in Harris County as well as Bexar, Webb and Frio Counties in South Texas are shown below by week of onset:

Week Ending:	Prior to 5/5	5/5	5/12	5/19	5/26	6/2	6/9	6/16	6/23	6/30
Bexar	3	3	0	3	0	3	4	4	0	1
Frio	0	0	0	0	4	2	1	1	0	0
Webb	4	1	1	1	0	0	0	0	0	0
Harris	0	0	0	0	0	4	1	0	1	0

Three of the last 5 cases which occurred in Bexar County (San Antonio) had received neither inactivated vaccine or the oral vaccine which was administered during the period May 31 - June 4. The other 2 cases received oral vaccine and had onset prior to June 13. No further cases have been reported from Frio or Webb County which along with Bexar County took part in community immunization programs with oral vaccine.

In Dallas County, 3 paralytic cases reported this week bring the total number of paralytic cases in that county to 4. No details are available regarding these cases.

There have now been 75 paralytic cases in Texas as shown in the following table by county and vaccination history. This represents 56 percent of cases with 1962 onset occurring in the nation. Over 80 percent of the Texas cases have been unvaccinated. Most have been pre-school children.

County	Unvaccinated	Vaccinated	Total
Bexar	149	257	406
Frio	131	48	179
Webb	170	79	249
Harris	243	78	321
Total	593	352	945

PARALYTIC POLIOMYELITIS BY  
COUNTY AND VACCINATION HISTORY  
TEXAS - 1962

County	Inactivated Vaccine				Total	Oral Vaccine*	
	OV	1-2V	3+V	Unk.		Yes	No
Bexar (S. Antonio)	19	2	0	0	21	5	5
Frio (Near Bexar)	5	3	0	0	8	2	0
Webb (Laredo)	4	1	2	0	7	0	0
Harris (Houston)	5	0	1	0	6	-	-
Hidalgo (So. Texas)	4	0	0	0	4	-	-
Dallas	0	0	0	4	4	-	-
Collin (Near Dallas)	0	0	0	3	3	-	-
Cameron (So. Texas)	2	0	0	0	2	-	-
Starr (So. Texas)	1	0	0	1	2	-	-
Others**	12	1	1	4	18	-	-
<b>Total</b>	<b>52</b>	<b>7</b>	<b>4</b>	<b>12</b>	<b>75</b>	<b>7</b>	<b>5</b>

\* Cases with onset since oral vaccine program.

\*\* 18 counties with one case each.

B. Massachusetts

During 1962, Massachusetts has experienced two cases of paralytic poliomyelitis. Both of these were reported during the week ending June 23, 1962 and occurred in two different communities. Viral strains have been recovered in each case and were classified as Type I poliomyelitis. A line listing showing these cases appears below.

Community	Onset	Age	Race	Sex	Vaccine	
					Inactivated	Oral
New Bedford	6/13	4	W	F	0	0
Lynn	6/19	1½	W	M	0	0

A program of oral poliomyelitis vaccination has been undertaken in this State during the spring of this year. Type I oral vaccine was administered in early May followed by Type III in June.

With the occurrence of these two cases, Dr. Nicholas Fiumara, Director, Communicable Diseases Division, Massachusetts Department of Public Health, along with local health authorities, undertook to further augment the immune status of the epidemiologically relevant areas in these two communities. On Sunday, June 24, Type I oral poliovaccine was fed on a door-to-door basis in the short, dead end street where the Lynn, Massachusetts' case resided. Seventy persons were fed in 18 families. Only 20 of these persons had received Type I vaccine when it had been offered previously. On that same Sunday, 1365 persons in the neighborhood of the New Bedford case received Type I oral vaccine. The area covered in New Bedford was 1/4 of a mile wide and 1/2 mile long, and was based on the school and playground pattern of the case and the neighborhood. Sound trucks, mobile feeding stations and auxiliary police knocked on each door to induce what was thought to be close to 100 percent participation.

Dr. Fiumara proposes to use this same type of approach with the occurrence of any other case during this year in Massachusetts by administering the vaccine as a bivalent mixture of Type I and Type III with 600,000 TCID units of Type I, and 300,000 units of Type III in the relevant area, as soon as a case is recognized.

As of July 5, 1962 no further cases have occurred in Lynn or New Bedford, Massachusetts.

### 3. 1962 POLIOMYELITIS REPORTED TO PSU

Of the 157 cases of paralytic poliomyelitis reported through the week ending June 30, 135 had onset in 1962. Twenty-two cases represent delayed reports with onsets of illness in 1961.

To date in 1962, there have been 42 poliovirus isolates reported from the 135 paralytic cases. Of these, 35 are Type I and 7 are Type III poliovirus. Texas has accounted for over half of the isolates which have been reported. The isolates have been reported from the following States:

State	Poliovirus			Total
	I	II	III	
Arizona	2	0	0	2
Arkansas	0	0	1	1
California	0	0	1	1
Georgia	0	0	1	1
Illinois	1	0	0	1
Kentucky	0	0	1	1
Louisiana	2	0	0	2
Massachusetts	2	0	0	2
Montana	1	0	0	1
New York	3	0	0	3
Ohio	0	0	2	2
Texas	22	0	1	23
Utah	1	0	0	1
Wyoming	1	0	0	1
<b>Total</b>	<b>35</b>	<b>0</b>	<b>7</b>	<b>42</b>

The Poliomyelitis Surveillance Unit has received individual case forms on 114 of the 135 paralytic cases with onset in 1962. Over 65 percent of these cases have been unvaccinated.

	Vaccination Status					Total
	OV	1-2V	3V	4+V	Unk.	
1962 Paralytic Cases	76	15	11	10	2	114

4. ROUTINE POLIOMYELITIS SURVEILLANCE - 1962

A. Cases with Onset Within 30 Days of Vaccination (Inactivated)

One case of paralytic poliomyelitis from Texas with onset within 30 days of vaccination with inactivated vaccine has been reported to the Poliomyelitis Surveillance Unit during the two-week period ending June 30. This case is a nine-month old male, previously unvaccinated, from Wilson County who was immunized on May 26, and whose date of onset was June 4.

Six cases of poliomyelitis, 3 paralytic, have been reported thus far this year.

B. Cases with Onset Within 30 Days of Vaccination (Oral)

During the two-week period ending June 30, four under 30-day paralytic cases (OPV) have been reported to the Poliomyelitis Surveillance Unit from Texas. Three were from Bexar County and one was from Frio County. All four, previously unvaccinated, had been fed Type I oral polio vaccine during community programs under epidemic conditions. Details concerning the 4 paralytic cases are shown below.

County	Age	Sex	Onset	Date	Onset
				Fed	Interval
Bexar	14 mo.	M	6-5-62	5-31-62	5 days
Bexar	8 mo.	F	6-12-62	6-3-62	9 days
Bexar	8 mo.	F	6-10-62	5-31-62	10 days
Frio	4 yr.	M	6-13-62	5-31-62	13 days

To date in 1962, there have been 10 cases, 9 paralytic, reported.

5. FOREIGN REPORT - CHILE

During 1961, the Chilean National Health Service made plans for a national program of oral vaccination to include the mass vaccination of children from 3 months to 7 years of age. The first step of the program, which was to be initiated in the winter of 1962, was the administration of monovalent Type I vaccine. This was to be followed by a bivalent dose of Type II and III after a period of not less than 8 weeks. After the completion of this phase of the program, the levels of vaccination would be maintained by administering trivalent vaccine to infants.

An epidemic outbreak of poliomyelitis in the province of Santiago, originating in October, 1961, necessitated an earlier vaccine program. Virus studies early in the epidemic revealed that the outbreak was due to Type I poliovirus. (For details concerning the origin of the outbreak, see PSU Reports Nos. 248, 249, and 250).

During a 15-day period, beginning on December 5, 1961, 411,000 children from 3 months to 7 years of age were vaccinated in Santiago Province. This represented 84.5 percent of Santiago children in this age group. An impressive decline in cases of paralytic poliomyelitis took place two weeks following the initiation of the oral vaccination program. A build-up of cases during November and early December is evident in the graph on Page 7. A sharp decline took place during the 51st week of 1961 and continued during the summer months of January, February and March. This abrupt drop in cases is emphasized below when compared to the 1955-56 epidemic which occurred in Santiago.

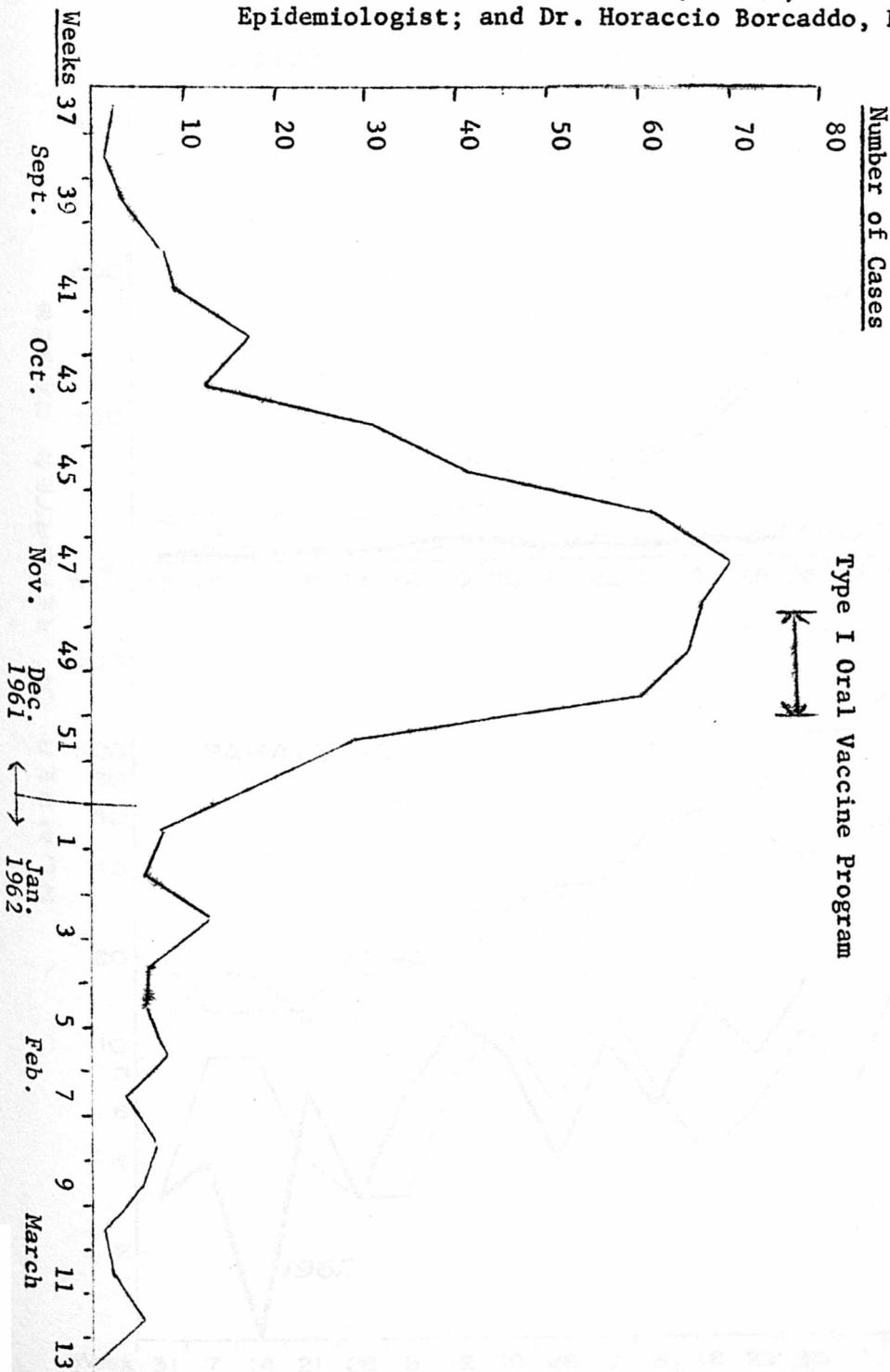
<u>Month:</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Jan.</u>	<u>Feb.</u>	<u>March</u>
1955-56	11	28	38	79	117	87	76
1961-62	13	69	240	173	33	25	13

In Valparaiso, the second largest city, vaccination was begun on December 20, 1961, concurrent with an increase in poliomyelitis incidence. The threatening outbreak failed to reach epidemic proportions as 95,000 (77.4 percent) of the children 3 months to 7 years of age were fed Type I oral vaccine. It was of interest that the majority of cases occurring in January were due to Type III poliovirus.

Although there was no unusual increase in the rest of the country, the program was then extended to the remaining 23 provinces throughout Chile. The three and one-half month program which started December 5, 1961 and terminated on April 18, 1962, reached 1,186,000 children in the 3 month to 7 year age group. This represents 80.7 percent of the respective population.

Several virus and serological studies in progress before, during, and after the program are not as yet completed. The second stage of the program, in which Type II and III vaccine will be administered, will be undertaken shortly.

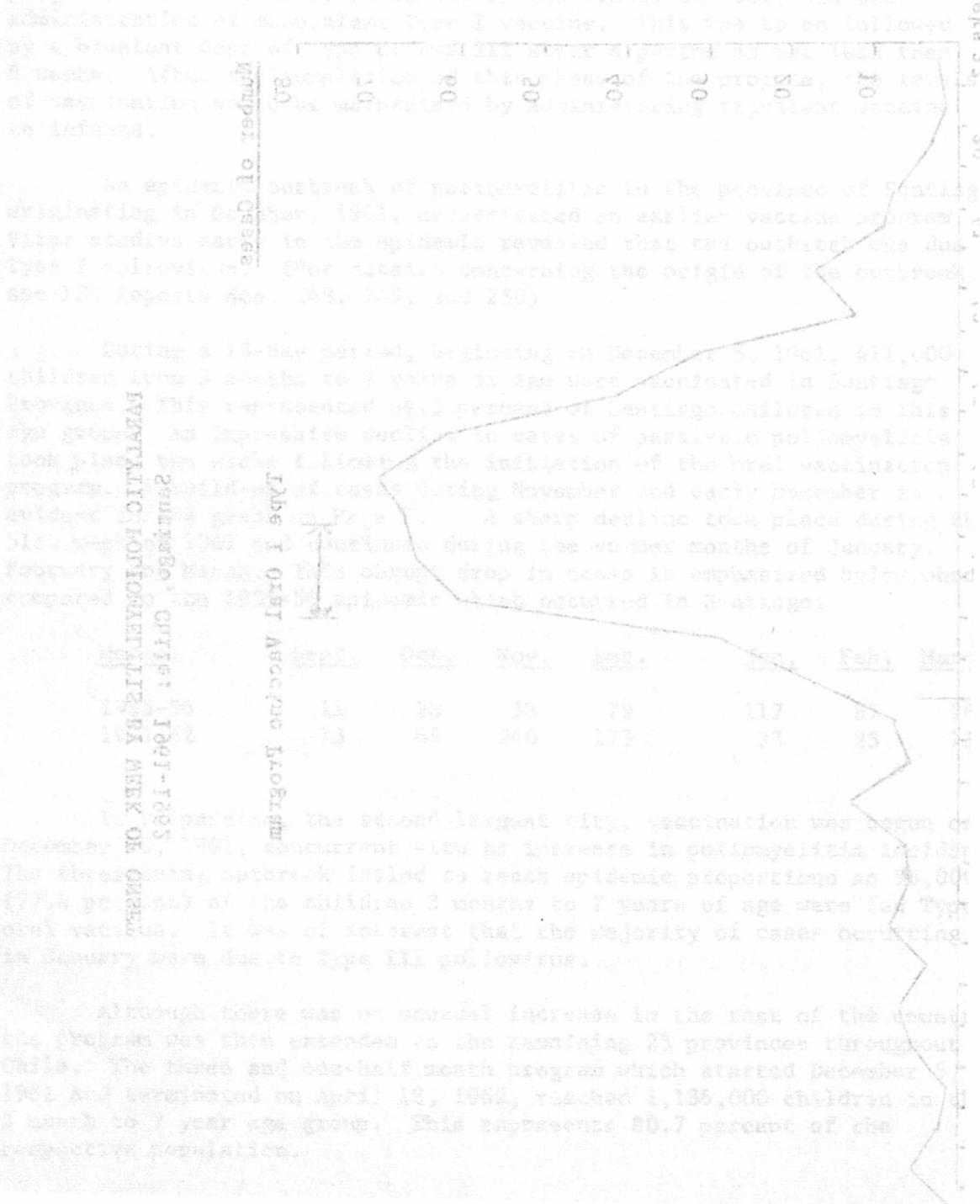
(The above information has been generously provided by the Sub-Department of Protection of Health, Chilean National Health Service: Dr. Conrado Ristori, Chief; Dr. Jose Borgono, Epidemiologist; and Dr. Horaccio Borcaddo, Epidemiologist.)



PARALYTIC POLIOMYELITIS BY WEEK OF ONSET  
Santiago, Chile: 1961-1962

Several virus and serological studies in progress before, during, and after the program are not as yet completed. The second stage of the program, in which Type II and III vaccine will be administered, will be undertaken shortly.

(The above information has been generously provided by the Sub-Department of Protection of Health, Chilean National Health Service; Dr. Gonzalo Riestra, Chief; Dr. Joseborgue, Epidemiologist; and Dr. Horacio Boracido, Epidemiologist.)



PARATYPHOID POLIOENTERITIS BY WEEK OF ONSET, Santiago, Chile: 1961-1965.

Type I Oral Vaccine Program

**Figure 1**  
**CURRENT U.S. POLIO INCIDENCE**  
**COMPARED WITH YEARS 1957, 1959, and 1961**  
**APRIL-AUGUST, BY WEEK**

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS  
 AND COMMUNICABLE DISEASE CENTER

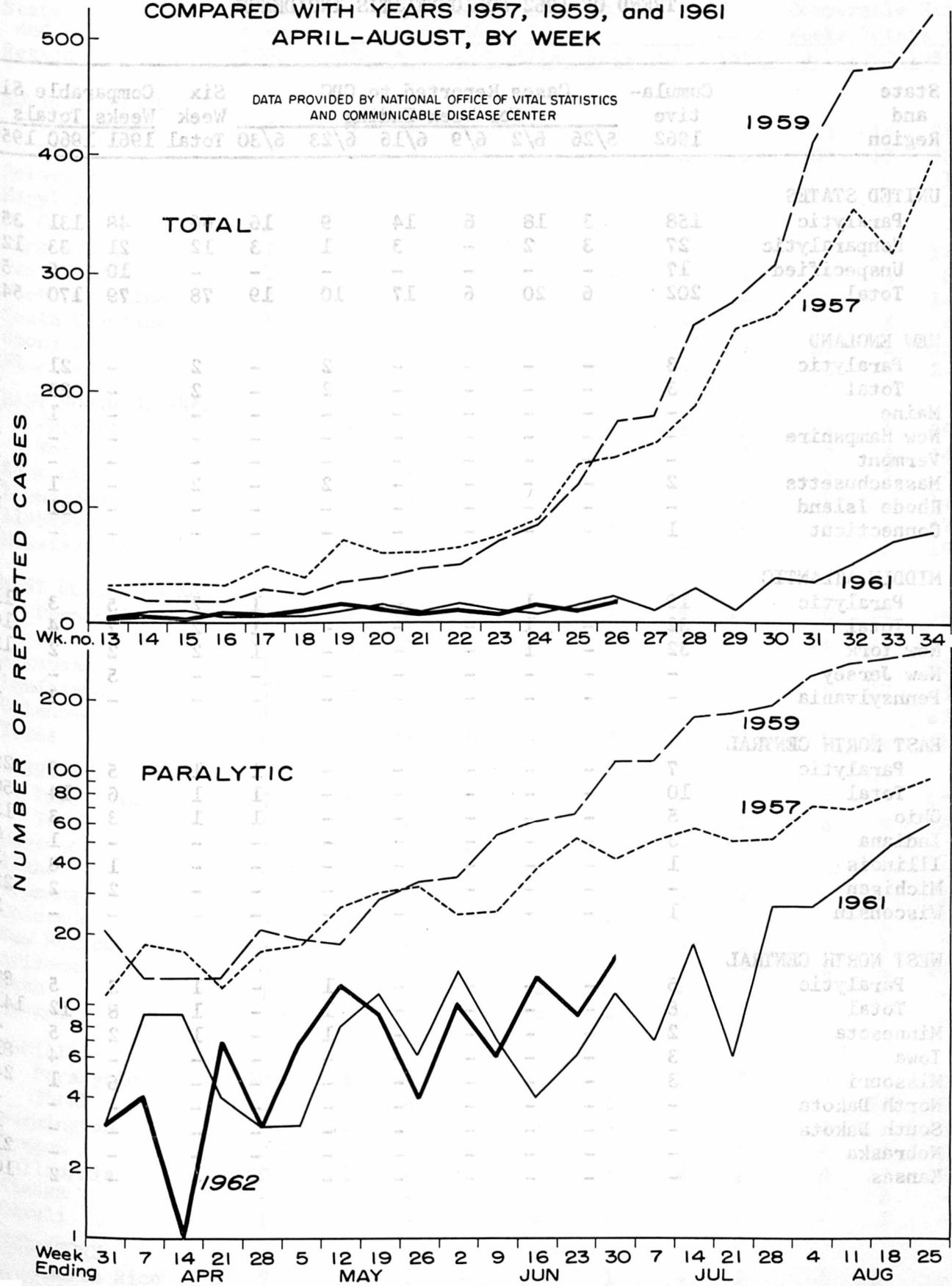




Table I (Continued)

State and Region	Cumulative 1962	Cases Reported to CDC For Week Ending						Six Week Total	Comparable Six Weeks Totals in		
		5/26	6/2	6/9	6/16	6/23	6/30		1961	1960	1959
<b>SOUTH ATLANTIC</b>											
Paralytic	9	-	-	-	-	-	1	1	13	14	58
Total	12	-	-	-	-	-	1	1	22	17	76
Delaware	-	-	-	-	-	-	-	-	-	-	1
Maryland	-	-	-	-	-	-	-	-	-	-	-
D. C.	1	-	-	-	-	-	-	-	-	-	-
Virginia	2	-	-	-	-	-	-	-	-	-	12
West Virginia	1	-	-	-	-	-	1	1	2	3	6
North Carolina	2	-	-	-	-	-	-	-	-	4	14
South Carolina	1	-	-	-	-	-	-	-	3	5	4
Georgia	2	-	-	-	-	-	-	-	12	1	16
Florida	3	-	-	-	-	-	-	-	5	4	23
<b>EAST SOUTH CENTRAL</b>											
Paralytic	5	-	1	-	-	1	1	3	4	1	39
Total	7	-	1	-	-	1	1	3	7	3	54
Kentucky	2	-	1	-	-	-	-	1	2	2	4
Tennessee	3	-	-	-	-	-	1	1	1	-	14
Alabama	2	-	-	-	-	1	-	1	1	-	17
Mississippi	-	-	-	-	-	-	-	-	3	1	19
<b>WEST SOUTH CENTRAL</b>											
Paralytic	83	1	16	5	14	4	7	47	8	15	88
Total	99	4	18	5	17	5	10	59	13	27	129
Arkansas	1	-	-	-	-	-	-	-	-	1	22
Louisiana	7	-	-	-	2	-	-	2	5	10	23
Oklahoma	1	1	-	-	-	-	-	1	-	-	23
Texas	90	3	18	5	15	5	10	56	8	16	61
<b>MOUNTAIN</b>											
Paralytic	7	1	-	1	-	-	-	2	2	5	17
Total	8	1	-	1	-	-	-	2	2	7	28
Montana	3	-	-	1	-	-	-	1	-	4	2
Idaho	-	-	-	-	-	-	-	-	-	-	3
Wyoming	1	1	-	-	-	-	-	1	-	-	1
Colorado	-	-	-	-	-	-	-	-	-	1	1
New Mexico	-	-	-	-	-	-	-	-	-	1	7
Arizona	3	-	-	-	-	-	-	-	2	1	14
Utah	1	-	-	-	-	-	-	-	-	-	-
Nevada	-	-	-	-	-	-	-	-	-	-	-
<b>PACIFIC</b>											
Paralytic	20	1	-	-	-	1	5	7	8	58	40
Total	23	1	-	-	-	1	5	7	14	63	47
Washington	-	-	-	-	-	-	-	-	2	-	4
Oregon	2	-	-	-	-	-	1	1	4	4	7
California	20	1	-	-	-	1	4	6	8	55	36
Alaska	-	-	-	-	-	-	-	-	-	2	-
Hawaii	1	-	-	-	-	-	-	-	-	2	-
<b>TERRITORY</b>											
Puerto Rico	7	-	1	-	-	1	-	2	1	152	-

Table I (Continued)

State and Section	Cases Reported to CDC						Six Week Total 1961-1962	Comparable Six Weeks Total in 1961-1962
	1962	5/26-6/2	6/3-6/9	6/10-6/16	6/17-6/23	6/24-6/30		
<b>SOUTH ATLANTIC</b>								
Paralytic	9	1	1	1	1	1	14	
Total	12	1	1	1	1	1	17	
Alabama	-	-	-	-	-	-	-	
Arkansas	-	-	-	-	-	-	-	
Florida	3	-	-	-	-	-	4	
Georgia	2	-	-	-	-	-	1	
South Carolina	1	-	-	-	-	-	3	
North Carolina	2	-	-	-	-	-	4	
Virginia	1	-	-	-	-	-	3	
West Virginia	1	-	-	-	-	-	4	
Tennessee	1	-	-	-	-	-	1	
<b>EAST SOUTH CENTRAL</b>								
Paralytic	2	1	1	1	1	3	4	
Total	7	1	1	1	1	3	7	
Alabama	2	-	-	-	-	-	-	
Arkansas	3	-	-	-	-	-	-	
Florida	1	-	-	-	-	-	1	
Georgia	1	-	-	-	-	-	1	
Louisiana	1	-	-	-	-	-	1	
Mississippi	-	-	-	-	-	-	3	
<b>ST SOUTH CENTRAL</b>								
Paralytic	83	1	18	2	14	4	12	
Total	99	4	18	2	14	5	120	
Alabama	1	-	-	-	-	-	1	
Arkansas	7	-	-	-	-	-	10	
Florida	1	-	-	-	-	-	1	
Georgia	1	-	-	-	-	-	1	
Kansas	30	3	18	2	12	2	16	
Louisiana	1	-	-	-	-	-	1	
Mississippi	1	-	-	-	-	-	1	
Nebraska	1	-	-	-	-	-	1	
North Dakota	1	-	-	-	-	-	1	
South Dakota	1	-	-	-	-	-	1	
Texas	7	-	-	-	-	-	2	
<b>UNITED STATES</b>								
Paralytic	7	1	1	1	1	2	12	
Total	8	1	1	1	1	2	13	
Alabama	3	-	-	-	-	-	4	
Arkansas	1	-	-	-	-	-	1	
California	1	-	-	-	-	-	1	
Colorado	1	-	-	-	-	-	1	
Connecticut	1	-	-	-	-	-	1	
Delaware	1	-	-	-	-	-	1	
District of Columbia	1	-	-	-	-	-	1	
Florida	1	-	-	-	-	-	1	
Georgia	1	-	-	-	-	-	1	
Idaho	1	-	-	-	-	-	1	
Illinois	1	-	-	-	-	-	1	
Indiana	1	-	-	-	-	-	1	
Iowa	1	-	-	-	-	-	1	
Kansas	1	-	-	-	-	-	1	
Kentucky	1	-	-	-	-	-	1	
Louisiana	1	-	-	-	-	-	1	
Maine	1	-	-	-	-	-	1	
Massachusetts	1	-	-	-	-	-	1	
Michigan	1	-	-	-	-	-	1	
Minnesota	1	-	-	-	-	-	1	
Missouri	1	-	-	-	-	-	1	
Montana	1	-	-	-	-	-	1	
Nebraska	1	-	-	-	-	-	1	
Nevada	1	-	-	-	-	-	1	
New Hampshire	1	-	-	-	-	-	1	
New Jersey	1	-	-	-	-	-	1	
New Mexico	1	-	-	-	-	-	1	
New York	1	-	-	-	-	-	1	
North Carolina	1	-	-	-	-	-	1	
North Dakota	1	-	-	-	-	-	1	
Ohio	1	-	-	-	-	-	1	
Oklahoma	1	-	-	-	-	-	1	
Oregon	1	-	-	-	-	-	1	
Pennsylvania	1	-	-	-	-	-	1	
Rhode Island	1	-	-	-	-	-	1	
South Carolina	1	-	-	-	-	-	1	
South Dakota	1	-	-	-	-	-	1	
Tennessee	1	-	-	-	-	-	1	
Texas	1	-	-	-	-	-	1	
Utah	1	-	-	-	-	-	1	
Vermont	1	-	-	-	-	-	1	
Virginia	1	-	-	-	-	-	1	
Washington	1	-	-	-	-	-	1	
West Virginia	1	-	-	-	-	-	1	
Wisconsin	1	-	-	-	-	-	1	
Wyoming	1	-	-	-	-	-	1	
<b>TOTAL</b>	20	1	1	1	1	2	26	
Paralytic	23	1	1	1	1	2	28	
Total	43	1	1	1	1	2	47	
Alabama	1	-	-	-	-	-	1	
Arkansas	1	-	-	-	-	-	1	
California	1	-	-	-	-	-	1	
Colorado	1	-	-	-	-	-	1	
Connecticut	1	-	-	-	-	-	1	
District of Columbia	1	-	-	-	-	-	1	
Florida	1	-	-	-	-	-	1	
Georgia	1	-	-	-	-	-	1	
Idaho	1	-	-	-	-	-	1	
Illinois	1	-	-	-	-	-	1	
Indiana	1	-	-	-	-	-	1	
Iowa	1	-	-	-	-	-	1	
Kansas	1	-	-	-	-	-	1	
Kentucky	1	-	-	-	-	-	1	
Louisiana	1	-	-	-	-	-	1	
Maine	1	-	-	-	-	-	1	
Massachusetts	1	-	-	-	-	-	1	
Michigan	1	-	-	-	-	-	1	
Minnesota	1	-	-	-	-	-	1	
Missouri	1	-	-	-	-	-	1	
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Oklahoma	1	-	-	-	-	-	1	
Oregon	1	-	-	-	-	-	1	
Pennsylvania	1	-	-	-	-	-	1	
Rhode Island	1	-	-	-	-	-	1	
South Carolina	1	-	-	-	-	-	1	
South Dakota	1	-	-	-	-	-	1	
Tennessee	1	-	-	-	-	-	1	
Texas	1	-	-	-	-	-	1	
Utah	1	-	-	-	-	-	1	
Vermont	1	-	-	-	-	-	1	
Virginia	1	-	-	-	-	-	1	
Washington	1	-	-	-	-	-	1	
West Virginia	1	-	-	-	-	-	1	
Wisconsin	1	-	-	-	-	-	1	
Wyoming	1	-	-	-	-	-	1	